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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/673,327

09/30/2003

Daisuke Kitazawa

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EXAMINER

SAFAIPOUR, BOBBAK

ART UNIT

PAPER NUMBER

2618

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

01/29/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/673,327

Applicant(s)

KITAZAWA ET AL.

Examiner

Bobbak Safaipour

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/7/06
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,5 and 9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5 and 9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 11/7/2006 have been fully considered.

Applicant's arguments with respect to **claims 1 and 3** have been considered but are moot in view of the new ground(s) of rejection.

Applicant's arguments in response to **claims 2, 5, and 9** have been fully considered but they are not persuasive. Applicant essentially argues that **Hall (US Patent #5,991,618)** in view of **Denkert et al (US Patent #6,374,117)** fails to teach or suggest setting a transmission power margin so that the transmission power margin increases as the data retransmission count in an uplink or in a downlink increases, as cited in independent claim 2. Independent claims 5 and 9, while directed to alternative embodiments, recited substantially similar features.

Examiner respectfully disagrees. Denkert et al disclose that as the queue time of a particular data packet stored in a buffer approaches a threshold time, the transmit power for that packet can be increased (read the power margin increases) to reduce the remaining delay associated with receiving that packet at the other end of the connection (col. 3, lines 14-27). Furthermore, Denkert et al disclose that if the queuing delay is greater than the threshold, then the priority control can be set (read as wherein a transmission power... is set) so that multiplexor selects another transmit power for the next transmission (read as maintaining a retransmission count) (col. 4, lines 59 to col. 5 lines 40).

Therefore, Denkert et al disclose a transmission power control method "wherein a transmission power margin... is set so that the transmission power margin increases as the data

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retransmission count in an uplink or in a downlink increases.” As a result, the argued features are written such that they read upon the cited references.

Claims 4 and 6-8 have been canceled. **Claims 1-3, 5, and 9** are now pending in the present application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hall (US Patent #5,991,618)** in view of **Naghian (US Patent #6,792,248 B1)**.

Consider **claim 1**, Hall discloses the claimed invention wherein a transmission power control method in a radio communication system comprises a base station and mobile stations, comprising: determining that a communication to be transmitted from the base station to the mobile station is either real-time traffic or non-real time traffic based on at least one of a transmission delay, maximum retransmission count and reception error rate corresponding to the communication (col. 3, lines 10-33); and transmitting the communication from the base station to the mobile station based on the transmission power margin set in the setting (figure 1; col. 3 lines 34-54).

Hall fails to disclose setting a transmission power margin to a first value if the communication is real-time traffic and a second value if the communication is non-real time traffic, wherein the first value is greater than the second value.

In related art, Naghian discloses how the transmission margin can be determined using real-time measurements, wherein an upper limit value (P_{max}) of the power margin is indicated by 2-14 on Figure 2. (col. 4, lines 29-65)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Naghian into the system of Hall to set a transmission

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power margin to a first value if the communication is real-time traffic and a second value is the communication is non-real time traffic, wherein the first value is greater than the second value in order to control transmission power for maximizing cell capacity.

Consider **claim 3**, Hall discloses a communication device, comprising: means for determining that a communication to be transmitted from the base station to the mobile station is either real-time traffic or non-real time traffic based on at least one of a transmission delay, maximum retransmission count and reception error rate corresponding to the communication (col. 3, lines 10-33); and means for transmitting the communication from the base station to the mobile station based on the transmission power margin set in the setting (figure 1; col. 3 lines 34-54).

Hall fails to disclose means for setting a transmission power margin to a first value if the communication is real-time traffic and a second value is the communication is non-real time traffic, wherein the first value is greater than the second value.

In related art, Naghian discloses how the transmission margin can be determined using real-time measurements, wherein an upper limit value (P_{max}) of the power margin is indicated by 2-14 on Figure 2. (col. 4, lines 29-65)

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the teachings of Naghian into the system of Hall to set a transmission power margin to a first value if the communication is real-time traffic and a second value is the

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communication is non-real time traffic, wherein the first value is greater than the second value in order to control transmission power for maximizing cell capacity.

Claims 2, 5, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Hall (US Patent #5,991,618)** in view of **Denkert et al (US Patent # 6,374,117 B1)**.

Consider **claim 2**, Hall shows and discloses the claimed invention a transmission power control method in a wireless (radio) (abstract) communication system comprising a base station (col. 5, lines 17-25; figure 2) and subscriber unit (mobile station) (col. 5, lines 17-25; figure 2), where data retransmission is allowed in radio communication between the base station and the mobile stations (Hall: col. 3, lines 28-34; In power margin requirement for data communication modes, time is available to retransmit data packets).

Hall fails to show and disclose a transmission power margin provided to a required transmission power to satisfy a reception error rate required for radio communication between the base station and the mobile stations is set so that the transmission power margin increases as the data retransmission count in an uplink or in a downlink increases.

In the same field of endeavor, Denkert et al clearly disclose in one exemplary embodiment a downlink transmit power for a packet can be increased to reduce the remaining delay associated with receiving that packet at the other end of the connection. This results in a prioritization of the transmission of the data packet and a reduction in the delay associated with retransmission (Denkert et al: col. 3, lines 14-27 and col. 4, lines 59 to col. 5 lines 40).

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Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Denkert et al into the system of Hall to increase the transmission power margin as the data retransmission count in a downlink increases in order to reduce the delay.

Consider **claim 5**, Hall discloses a subscriber unit (communication device) (col. 5, line 30), comprising means of determining a transmission power required for satisfying a communication service quality required for a radio communication with other communication devices, and means of allocating a radio resource based on the determined transmission power and transmitting data using said radio resource (col. 6, lines 26-34, figure 2; Power margin value 148 subtracts current power measurement provided by power measurer 152 from a maximum power value 134. The power margin value 148 represents an amount of additional power subscriber unit 104 may transmit). Hall further discloses a margin setting means for setting a transmission power margin so as to increase the transmission power margin as said retransmission count increases (Hall: col. 6 lines 40-44, figure 2; col. 4, lines 59 to col. 5 lines 40; Power margin indicator 154 finds a desirable location or orientation for subscriber unit 104 to efficiently communicate with infrastructure 102), and transmission power determination means for determining a transmission power based on the set transmission power margin and said required transmission power (Hall: col. 6, lines 45-49, figure 2; Power margin 148 may be communicated to transmit controller 132 and transmit message processor 140 and communicated to the communication system infrastructure 102). Hall fails to disclose where data retransmission is allowed via said radio communication, further comprising a retransmission

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count storing means for counting a retransmission count when the same data is retransmitted and storing said retransmission count.

In the same field of endeavor, Denkert et al show and disclose a method and system for controlling transmit powers associated with retransmission (Denkert et al: col. 3, lines 10-27). Furthermore, Denkert et al show and disclose a wireless packet data system comprising a buffer for storing a data packet to be transmitted (Denkert et al: claim 1). As the queue time of a particular data packet stored in a buffer approaches a threshold time, the transmit power for that packet can be increased to reduce the remaining delay associated with receiving that packet at the other end of the connection (Denkert et al: col. 3, lines 10-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Denkert et al into the system of Hall to provide enhanced power control.

Consider **claim 9**, Hall discloses a radio communication system comprising a base station and a mobile station wherein both said base station and mobile station comprise: a margin setting means for setting a transmission power margin so as to increase the transmission power margin as said retransmission count increases (Hall: col. 6 lines 40-44 and col. 4, lines 59 to col. 5 lines 40, figure 2; Power margin indicator 154 finds a desirable location or orientation for subscriber unit 104 to efficiently communicate with infrastructure 102), and transmission power determination means for determining a transmission power based on the set transmission power margin and said required transmission power (Hall: col. 6, lines 45-49, figure 2; Power margin 148 may be communicated to transmit controller 132 and transmit message processor 140 and

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communicated to the communication system infrastructure 102). Hall fails to disclose a retransmission count storing means for counting a retransmission count when the same data is retransmitted between the base station and mobile station and storing said retransmission count.

In the same field of endeavor, Denkert et al show and disclose a method and system for controlling transmit powers associated with retransmission (Denkert et al: col. 3, lines 10-27). Furthermore, Denkert et al show and disclose a wireless packet data system comprising a buffer for storing a data packet to be transmitted (Denkert et al: claim 1). As the queue time of a particular data packet stored in a buffer approaches a threshold time, the transmit power for that packet can be increased to reduce the remaining delay associated with receiving that packet at the other end of the connection (Denkert et al: col. 3, lines 10-27).

Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the teachings of Denkert et al into the system of Hall to provide enhanced power control.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. **Moshes Deder et al (European Patent Application EP 1 050 977 A2)** which disclose a power control system for a wireless communications system adjust the transmit power of a wireless transmitter in relation to a number of acknowledgments expected for radio transmission over a wireless link. A wireless unit monitors the number of acknowledgments it receives (or fails to receive) for radio packets that the wireless unit transmitted over the wireless link. The wireless unit determines the number acknowledgments lost in relation to the number of acknowledgments expected to be received by the wireless unit can be based on the number of radio packets transmitted by the wireless unit. If the number of ACKs lost/number of ACKs expected is greater than a first threshold, the wireless unit increases the transmit power (abstract).

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

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Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314


Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Bobbak Safaipour whose telephone number is (571) 270-1092.

The Examiner can normally be reached on Monday-Friday from 9:00am to 5:00pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

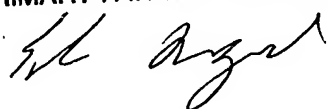
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) or 703-305-3028.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist/customer service whose telephone number is (571) 272-2600.


Bobbak Safaipour
B.S./bs

January 12, 2007

EDAN ORGAD
PRIMARY PATENT EXAMINER

 1/17/06